

REMARKS

1. Applicant acknowledges the Examiner's rejection of claims 1, 4, 6, 8 and 9 under 35 U.S.C. 102(b) as being anticipated by Kazuhiko (JP9-256865), but respectfully disagrees.

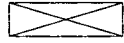
The following is a familiar quote from MPEP §2131:

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

In regard to claim 1, Applicant submits that the *Verdegaal Bros.* test is not met by the Kazuhiko reference, because of the following elements which are not found in Kazuhiko.

(1) Claim 1 recites "*foreign matter **embedded near** said contact face.*" From the spec and the drawings, it is clear that there is belt material between the foreign matter and the contact face, i.e. the foreign matter is completely surrounded. In contrast, Kazuhiko teaches "a metal body was embedded **at a tip** of this gear tooth." (see claim 3 and paragraphs 0008 and 0027). Although the abstract of Kazuhiko states "a steel wire 14 is embedded **in** teeth," it is clear from the whole specification and his figures 2 and 3 that the metal body is **at the surface**, i.e. fixed in the tooth, but not completely surrounded by tooth material. Thus, the present invention teaches a distinct type of embedding from Kazuhiko. This distinction is consistent with the first two definitions found at dictionary.com (see insert below). The present invention uses "embed" in the second sense (to surround or enclose), and Kazuhiko uses "embed" in the first sense (to fix in a surrounding mass, which may include being exposed at a surface, as in the example of stones embedded in cement, or tile embedded in adhesive).

em·bed



verb, -bed·ded, -bed·ding.

-verb (used with object)

1. to fix into a surrounding mass: *to embed stones in cement.*
2. to surround tightly or firmly; envelop or enclose: *Thick cotton padding embedded the precious vase in its box.*

...

-verb (used without object)

7. to be or become fixed or incorporated, as into a surrounding mass: *Glass embeds in the soft tar of the road.*

(2) Claim 1 recites "*contact face being worn ... so that said foreign matter is exposed at said contact face.*" This element requires the foreign matter to be completely embedded "*near the contact face*" or else no wear would be required to expose it. In contrast, the metal body of Kazuhiko is always exposed *at* the surface from the beginning and at all times thereafter, so it cannot *become exposed*.

(3) Claim 1 recites "*makes a warning sound to warn of a decrease*" in power transmission. If Kazuhiko's belt makes a sound, it will be the same sound from the beginning of operation to the end of belt life, since the metal body is already at the surface. Therefore, Kazuhiko's belt, if it makes a sound, cannot warn anyone of anything by means of that sound.

Since Kazuhiko lacks at least these three elements, it cannot anticipate claim 1. Withdrawal of this rejection of claim 1 is respectfully requested.

As for claim 4, Applicant respectfully points out that Kazuhiko teaches a metal wire at the contact surface (at the tip of the tooth), and therefore the longitudinal direction of the wire is **parallel** to the contact face, not perpendicular as recited by claim 4. The only perpendicular surface in Kazuhiko is the side or edge of the belt, which is not considered a contact surface on a toothed belt. Applicant points out that Figures 1 and 2 of the present application show the foreign matter from two views which confirm that the long direction is perpendicular to the nearest contact face. Withdrawal of this rejection of claim 4 is respectfully requested.

As for claim 6, Kazuhiko teaches the metal body embedded at the surface, so it is inapposite to speak of the distance to the surface. Thus, the Examiner's interpretation is contrived and not relevant to the present invention. The Examiner does not seem to recognize that the contact surface is one continuous surface of the toothed belt. Thus, the different distances cited by the Examiner are between two pieces of alleged foreign matter and a single arbitrary point somewhere on the contact surface. In the present invention, the contact face may have a profile, such as a toothed belt profile, but it still represents a single surface. The foreign matter in the present invention is embedded near the contact face, and the distance to the surface is clearly the perpendicular distance to the nearest part of the contact surface. Withdrawal of this rejection of claim 6 is respectfully requested.

As for claim 8, the above arguments about sound are reiterated here. Namely, any sound allegedly inherently present in Kazuhiko would not be a "*warning sound*" because it would always be present. Withdrawal of this rejection of claim 8 is respectfully requested.

As for claim 9, Kazuhiko again does not teach every element of the claim. Kazuhiko teaches the metal embedded at a first surface as discussed above, therefore there is **no** distance between the metal and the first surface. Thus, Kazuhiko lacks "*a distance from said foreign matter to a first surface*" and cannot satisfy the element "*wherein said first surface is worn by said pulley so that said foreign matter is exposed at said first surface.*" Finally, the lack of a distance means there will always be a sound if any in Kazuhiko, instead of the sound only arising after some wear according to embodiments of the invention. Withdrawal of this rejection of claim 9 is respectfully requested.

2. Applicant acknowledges the Examiner's rejection of claims 3, 5, and 13-14 under 35 U.S.C. § 103(a) as unpatentable over Kazuhiko, but respectfully traverses.

Regarding claim 3, as argued above, Kazuhiko lacks a number of elements of claim 1 from which claim 3 depends. Furthermore, the Examiner provides no supporting evidence for his statement that one of skill in the art would find it obvious to

make the foreign matter softer than the pulley material. Withdrawal of this rejection of claim 3 is respectfully requested.

Regarding claim 5, as argued above, Kazuhiko lacks a number of elements of claims 1 and 4 from which claim 5 depends. Furthermore, the Examiner provides no supporting evidence that one of skill in the art would find it obvious to modify the width of the foreign matter or how this would improve “fit” or “retention”. Withdrawal of this rejection of claim 5 is respectfully requested.

Regarding claim 13, as argued above, Kazuhiko lacks at least the first two elements lacking from claim 1: “foreign matter **embedded near** said contact face” and “contact face being worn ... so that said foreign matter is exposed at said contact face.” Moreover, as admitted by the Examiner, Kazuhiko does not explicitly disclose “width of said foreign matter becoming narrower as said foreign matter approaches said contact face.” None of these features are suggested or taught by Kazuhiko, so a prima facie case of obviousness has not been made. Withdrawal of this rejection of claim 13 is respectfully requested.

Regarding claim 14, as argued above, Kazuhiko lacks at least the first two elements lacking from claim 1: “foreign matter **embedded near** said contact face” and “contact face being worn ... so that said foreign matter is exposed at said contact face.” As argued above for claim 9, Kazuhiko lacks “a distance from said foreign matter to a first surface” and cannot satisfy the element “wherein said first surface is worn by said pulley so that said foreign matter is exposed at said first surface.” Moreover, as admitted by the Examiner, Kazuhiko does not explicitly disclose “width of said foreign matter becoming narrower as said foreign matter approaches said contact face.” None of these features are suggested or taught by Kazuhiko, so a prima facie case of obviousness has not been made. Withdrawal of this rejection of claim 14 is respectfully requested.

3. Applicant acknowledges that claims 10-12 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kazuhiko, in view of Mohr et al. (6,672,983), but respectfully traverses.

Regarding claim 10, as argued above for claim 1, Kazuhiko lacks a number of elements: including “foreign matter **embedded near** said contact face” and “contact face being worn ... so that said foreign matter is exposed at said contact face.” Mohr et al. do not teach these missing elements. Therefore, the combination of Kazuhiko and Mohr et al. does not support a prima facie case of obviousness. Moreover, Mohr et al. do not teach or suggest “a warning apparatus which sends out a warning according to said specific sound detected.” Mohr et al. merely use a microphone and meter to measure sound level at a particular frequency and a total sound level, in order to select quieter belt designs. There is no disclosure in Mohr et al. of “a warning apparatus.” Mohr et al. do not teach or suggest using a sound apparatus to “send out a warning according to the specific sound detected” (col. 4, lines 13-15). Therefore, withdrawal of this rejection of claim 10 is respectfully requested.

As for claim 11, in addition to the elements of claim 10, from which claim 11 depends, lacking in the cited reference combination, Mohr et al. does not teach or suggest “wherein said foreign matter contacting said pulley at a predetermined cycle makes a specific sound appear.” Instead, Mohr et al. measure the total noise and the tooth meshing noise that would be present in any toothed belt, i.e., the background noise. Claim 11 requires a specific noise that appears after some wear exposes the foreign matter. The noise that would be generated by the Kazuhiko belt would also be background noise, since there is no change in exposure with time of the embedded metal. This combination of references cannot render obvious the inventive feature of a specific sound that appears after wear exposes foreign matter. Therefore, withdrawal of this rejection of claim 11 is respectfully requested.

As for claim 12, contrary to the Examiner’s interpretation, Mohr et al. do not disclose any warning apparatus that responds to the appearance of a specific sound that occurs when foreign matter is exposed. Again, Mohr et al. merely measure total noise and noise level at a certain frequency corresponding to meshing noise of teeth. There is no suggestion of a specific sound that “appears,” no suggestion of a change in sound with time or wear, etc. Therefore, withdrawal of this rejection of claim 12 is respectfully requested.

4. Applicant acknowledges that claim 7 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Kazuhiko, in view of Cicognani (GB 2046399), but respectfully traverses. All the arguments regarding claim 1 (from which claim 7 depends) above apply again here and are incorporated by reference. Moreover, the colored material of Cicognani is not "*foreign matter*." Instead, Cicognani takes a known rubber material in a known belt construction and simply makes it white instead of black by using known white fillers instead of carbon black (col 1, lines 16-18 & col 2, lines 1-13). This does not constitute "*foreign matter*" according to the present invention. "wherein said foreign matter is given a color, which is different from a color of other parts of said transmission belt."

5. Applicant acknowledges the Gregg reference (US 6,569,046) made of record but not relied on by the Examiner. However, the Applicant respectfully submits that it is not as relevant as the references relied upon, and disagrees with the Examiner's characterization. In particular, Gregg's disclosed wear detection system does not have "similar features." Gregg's wear detection system differs from the invention in how it works and the features it has. Gregg teaches that wear in a helically offset toothed belt (HOT belt) leads to the belt tracking off center. Gregg uses a contact or optical sensor on the edge of the belt to detect the tracking. Gregg does not disclose any foreign matter embedded near any contact surface, no noise, etc.

FEE STATEMENT

Any fees which may be required, though none are believed due, are authorized to be charged to Assignee's deposit account number 07-0475.

In light of the forgoing amendments and remarks, favorable reconsideration of the allowability of all claims is respectfully solicited.

Respectfully submitted,

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